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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/807,214

03/22/2004

Mark Lynn Jenson

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06/30/2006

LEMAIRE PATENT LAW FIRM, P.L.L.C.

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EXAMINER

CREPEAU, JONATHAN

ART UNIT

PAPER NUMBER

1745

DATE MAILED: 06/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/807,214

Applicant(s)

JENSON ET AL.

Examiner

Jonathan S. Crepeau

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1745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 February 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 21-41 and 55-87 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 32, 34, 38-41, 70, 73-76 and 80-87 is/are allowed.
- 6) ☒ Claim(s) 21-31, 33, 35-37, 55-66, 69, 71, 72 and 79 is/are rejected.
- 7) ☒ Claim(s) 67, 68, 77 and 78 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2-25-06.
- ☒ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on February 25, 2006 has been entered.

This Office action addresses claims 21-41, 55-62, and newly added claims 63-87. Claims 32, 34, 38-41, 70, 73-76, and 80-87 are allowed, and claims 67, 68, 77, and 78 are objected to as containing allowable subject matter. Claims 21-31, 35-37, 55-66, 69, and 79 remain rejected over the Thomas and Meitav references. Claim 33 is newly rejected under 35 USC 112 first paragraph. This action is non-final.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 33, 71, and 72 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not

described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claim 33 recites the step of “depositing a cathode-conductor of the battery on a face of the integrated circuit opposite the insulating layer.” If the surface of the integrated circuit opposite the insulating layer is interpreted as the *bottom* of the integrated circuit, it is submitted that the instant specification is non-enabling for forming a battery on this bottom surface, i.e., forming a battery between the integrated circuit and the substrate. In remarks filed 1/20/06, Applicant makes reference to Fig. 26A. However, Figure 26A is not believed adequately support the method recited in claim 33. For example, it is not clear what the claimed “substrate” is in the Figure. Appropriate clarification or correction is required.

Claim Rejections - 35 USC § 103

4. Claims 21-29, 31, 35, 36, 55, 60, and 63-66 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thomas et al (U.S. Patent 5,849,426).

The reference teaches a hybrid energy system (50) comprising a plurality of batteries (66) integrated with a capacitor (80) into a housing (52, 54). Either portion of the housing may be considered a “substrate” as recited in the instant claims and as such, either the capacitor may be deposited on the substrate (52) and the battery deposited on top of the capacitor, or the battery may be deposited on the substrate (54) and the capacitor deposited on top of the battery.

Regarding claims 24 and 25, an integrated circuit would inherently be contained in the portable

communication device (100), which is electrically attached via traces (102) to the battery through an insulating layer (54).

However, the reference does not expressly teach that the battery and capacitor are made by successively depositing a plurality of thin-film layers on the substrate, as recited in claims 21, 28, and 29. The reference further does not expressly teach that the substrate comprises a polymer having a melting point substantially below 700 degrees Centigrade, as recited in claims 36 and 55.

However, the invention as a whole would have been obvious to one of ordinary skill in the art at the time the invention was made because the claimed method steps are not considered to distinguish over the method of Thomas. In the reference, it appears that each component (battery and capacitor) is separately fabricated from a respective plurality of layers and then placed (deposited) onto a substrate (52). The instant claims require successive deposition on the substrate of the layers forming the battery and capacitor. However, in general, the order of method steps is not considered to distinguish over a reference unless a new or unexpected result is shown (MPEP 2144.04). In this case it would be obvious to deposit the individual battery and capacitor layers on the substrate as opposed to forming the entire battery and capacitor structures and then attaching them to the substrate. See also *In re Burhans*, 154 F.2d 690, 69 USPQ 330 (CCPA 1946).

In addition, the selection of a polymer having a melting point substantially below 700 degrees Centigrade as the housing material of Thomas would be an obvious modification.

Portable electronic devices are commonly housed in plastic cases, and as such, the selection of such a material for use in Thomas et al. would be obvious to a skilled artisan.

5. Claims 21-23, 28-30, 35, 37, 55-62, 69, and 79 rejected under 35 U.S.C. 103(a) as being unpatentable over Meitav et al (U.S. Patent 6,576,365). The reference is directed to an assembly wherein a plurality of electrochemical cells (comprising electrodes 48 and electrolytes 50) are stacked vertically and horizontally (see Fig. 5). Cells are disposed horizontally adjacent to each other on a substrate (32). The substrate can be a conductive polymer or metal foil (see col. 6, line 54).

The reference does not expressly teach that a battery and a capacitor are located next to each other either in a vertical or horizontal direction as recited in the instant claims. However, the reference teaches in column 1, line 30 that “further, the present invention is more versatile for achieving inter-cell or inter-stack connections in series, parallel, or combinations thereof and for achieving hybrid packs of a battery or batteries combined with a capacitor or capacitors in a single package.” As such, this passage provides sufficient guidance for the artisan to create hybrid systems of batteries and capacitors using the various cells of Meitav et al. Therefore, the use of any combination of batteries and capacitors within a two-dimensional array shown in Fig. 5 of Meitav would be rendered obvious to the skilled artisan.

The reference further does not expressly teach that the battery and capacitor are made by successively depositing a plurality of thin-film layers on the substrate, as recited in claims 21, 28, and 29, 30, and 37.

However, the claimed method steps are not considered to distinguish over the method of Meitav. In the reference, Figure 4 suggests that the individual cell layers (48, 50) are assembled to a substrate (32), but the order of assembly is not clear. The instant claims require successive deposition on the substrate of the layers forming the battery and capacitor. However, in general, the order of method steps is not considered to distinguish over a reference unless a new or unexpected result is shown (MPEP 2144.04). In this case it would be obvious to deposit the individual battery and capacitor layers successively on the substrate as opposed to, for example, attaching the individual layers to each other and then attaching the aggregate structures to the substrate. See also *In re Burhans*, 154 F.2d 690, 69 USPQ 330 (CCPA 1946).

The reference further does not teach that the assembly is curved so as to have a concave face and a convex face, as recited in claims 35, 60-62, 69, and 79. However, it has been held that changes in shape are generally not patentably significant unless a new or unexpected result is achieved (MPEP 2144.04). As such, the claimed configuration is not considered to distinguish over the reference.

The reference further does not expressly teach the substrate species recited in claims 57-59. However, at column 7, line 23, the reference teaches the following:

Alternatively, the common and terminal current collectors 20 and 22 may comprise any number of layers. The combination of layers and materials may be adjusted to achieve a desired combination of features including stability, lateral conductivity, interfacial contact resistance with the conductive polymer layer, pressure insensitivity, solderability, creep, passivation, contact resistance, and permeability to the electrolyte, as well as, achieving the desired performance characteristics of the overall energy storage component.

Thus, it is seen that the reference contemplates a wide variety of materials and configurations for the substrate/current collectors. As such, the claimed materials would be rendered obvious by the reference.

Conclusion

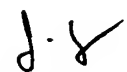
6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan Crepeau whose telephone number is (571) 272-1299. The examiner can normally be reached Monday-Friday from 9:30 AM - 6:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan, can be reached at (571) 272-1292. The phone number for the organization where this application or proceeding is assigned is (571) 272-1700. Documents may be faxed to the central fax server at (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

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applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jonathan Crepeau
Primary Examiner
Art Unit 1745
June 26, 2006